2011 Report to Consumers on

WATER QUALITY Consumer Confidence Report

Our Goal: Meet or Exceed Federal & State Regulations

The City of Morgan Hill is committed to providing the community a safe, reliable supply of excellent quality drinking water that meets or exceeds Federal and State regulations. Again in 2011, we met or exceeded every water quality standard without a single violation.

This report gives information about the quality of water provided in 2011. It describes where your water comes from, what it contains and how it compares to State standards.

This report contains information regarding testing for perchlorate levels in the City's water wells. Other perchlorate information can be found at www.valleywater.org on the Santa Clara Valley Water District's website, and on the City of Morgan Hill's website, www.morgan-hill.ca.gov.

Share This Report

Landlords, businesses, schools, hospitals and other groups are encouraged to share this important water quality information with water users at their locations who are not billed customers of the City of Morgan Hill and therefore do not receive this report directly.

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

A Word About Chemicals and Organisms

Here is a brief description of chemicals and organisms, and how the City of Morgan Hill monitors, tests, and treats for them:

Methyl Tertiary-Butyl Ether (MTBE)

Added to gasoline either seasonally or year-round in many parts of the United States to increase octane levels and reduce carbon monoxide and ozone levels in the air. In California, it has been added to gasoline since January 1996. The City of Morgan Hill tests for MTBE every three years as prescribed by the monitoring program for our public water system.

Lead and Copper Testing

In 1991, the United States Environmental Protection Agency (EPA) adopted the Lead and Copper Rule which requires all cities, including Morgan Hill, to perform lead and copper testing. The City's public water system does not have detectable levels of lead and copper; however, these metals may leach into the water from home plumbing.

In June 1997, the City completed lead and copper testing from inside homes under the guidance of the California Department of Public Health (DPH). Results showed that the copper levels were below the Federal Action Level of 1,300 parts per billion (ppb), and the lead levels were below the Federal Action Level of 15 parts per billion (ppb).

The City is on a three-year cycle for testing of lead and copper determined by the primary testing performed at the inception of the lead and copper Rule. The City has completed its 2009 tri-annual round of sampling and the sample results remain under Federal Action Levels for lead and copper. We will retest these levels again in 2012.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Nitrates

Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L

The City's Perchlorate Challenge

Perchlorate contamination of drinking water supplies in the South Valley, including water supplied by the City of Morgan Hill, has been an ongoing concern of City government and all local residents and businesses. Prior to the adoption of a maximum contaminant level (MCL) by DPH in October 2007, the City aggressively responded to the discovery of perchlorate in the South Valley aquifer by taking the following actions:

- Maintaining a perchlorate removal system on Tennant Well to provide residents with an adequate supply of quality drinking water.
- Testing City wells for the presence of perchlorate in excess of EPA or DPH requirements.
- Turning off or treating any City well that tests above six parts per billion (ppb), the adopted MCL.
- Cooperating with the Santa Clara Valley Water District, Regional Water Quality Control Board (SWRCB), and State Department of Public Health on approaches to addressing perchlorate.

The proposed 2012/13 operating budget requirements for perchlorate-related costs are the same as 2011/12. The draft 2012/13 budget recommends the perchlorate surcharge remain at 1%. The revenue generated by the surcharge will pay any costs associated with managing and treating the removal of perchlorate. The need for future surcharges will be evaluated annually.

Perchlorate Surcharge Imposed

On April 1, 2004, a 5% surcharge on water usage fees was applied to the water bills of every City water user to pay for perchlorate removal and the cost associated with resolving the perchlorate problem. The surcharge was increased to 10% in 2005, 15% in 2006, and reduced back to 10% in 2008 to meet the program's funding demand. On July 1, 2009, the perchlorate surcharge was reduced to 3% and further reduced to 1% on July 1, 2010. Perchlorate surcharge revenues are accounted for separately and spent only on perchlorate-related costs.

may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with specific enzyme deficiencies. If you are caring for an infant, or if you are pregnant, you should ask advice from your health care provider.

The City's water supply is below the maximum contaminant level (MCL) for nitrates. In 2011, the City performed 252 nitrate analyses alone to ensure a safe water supply.

Perchlorate

On October 18, 2007, DPH established the MCL for perchlorate at 6 ppb. DPH determined that at this level there was minimal health risk to individuals drinking the water for a lifetime of use, including at-risk populations such as pregnant women and infants. The City of Morgan Hill amended its perchlorate treatment rule to be consistent with the State DPH protocol in most instances. However, the City continues to take extra precautions that exceed EPA and DPH legal requirements with regards to monitoring perchlorate levels in certain wells. City wells that have detectable levels of perchlorate at the state detection limit range are tested monthly for perchlorate contamination – well beyond the State testing requirement of quarterly in regulations. Also well beyond the State requirements, we test all City wells at least annually.

Unregulated Contaminants

The City monitors for unregulated contaminants as required by EPA. This helps the EPA and DPH determine where certain contaminants occur, and whether the contaminants need to be regulated.

Radioactive Contamination

These contaminants can be naturally occurring or may be the result of oil and gas production and mining activities.

Water Sources

Morgan Hill is located in South Santa Clara County, situated between the Coyote and Llagas underground aquifers. These aquifers are the source of Morgan Hill's water supply.

The City currently operates 17 groundwater wells throughout the City. In 2011, these wells supplied 2,429 million gallons of water to approximately 12,303 active residential and business accounts. The water produced by these wells is disinfected with chlorine to protect against microbial contaminants.

An assessment of the drinking water sources for the City of Morgan Hill was completed in September 1998. The groundwater source is considered to be most vulnerable

to the following activities associated with contaminants detected in groundwater: low density septic systems, irrigated crops, grazing and animal operations, agricultural/irrigation wells and animal feeding operations (occurrence of nitrate in groundwater).

A copy of the complete assessment is available at the Department of Public Health, Drinking Water Field Operations Branch at 850 Marina Bay Parkway, Bldg. P, 2nd Floor, Room 458, Richmond, California, and the City of Morgan Hill Utilities Division at 100 Edes Court.

Water Quality Data

The table in this report on the following page lists all the DPH regulated drinking water contaminants detected during the test cylcle up to December 31, 2011.

To ensure that tap water is safe to drink, DPH prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Morgan Hill's water is treated in accordance with DPH regulations.

The DHS Food and Drug Branch regulations establish limits for contaminants in bottled water; these limits provide the same protection for the public water supply. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk.

Unless otherwise noted, the data presented in this table is from testing done over the period January 1-December 31, 2011. The State allows the City to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Thus, some of the data – though representative of the water quality – is more than a year old.

TERMS & ABBREVIATIONS USED IN THE DATA TABLES

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to PHGs or MCLGs as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

Regulatory Action Level (AL): The concentration of a contaminant which, when exceeded, triggers treatment or other requirements that a water system must follow.

n/a: not applicable

ns: no standard

nd: not detectable at testing limit

cu: color unit (a measure of color in water)

ppb: parts per billion or micrograms per liter

ug/L: micrograms per liter

ppm: parts per million or milligrams per liter

mg/L: milligrams per liter

pCi/l: picocuries per liter (a measure of radiation)

MFL: Million Fibers per Liter, with a fiber length greater than 10 micrometers

grains per gallon: the measure of the concentration of a solution

TON: Threshold Odor Number (a measure of the odor associated with water)

umhos/cm: the measure of the dissolved inorganic salt content

<: less than

Contaminants that may be present in source water before we treat it.

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, and mining or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agricultural and residential uses.
- **Radioactive contaminants**, which are naturally occurring.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroction, and can also come from gas stations, urban runoff and septic systems.

Water Quality Statement

For the calendar year 2011, your tap water met all U.S. Environmental Protection Agency (USEPA) and State drinking water health standards. The City of Morgan Hill vigilantly safeguards your water supply and once again we are proud to report that the City's system has not violated any California Department of Health Standards.

LEAD AND COPPER RULE

PARAMETER	DATE TESTED	UNITS	ACTION LEVEL	PHG (MCLG)	NUMBER OF SITES SAMPLED	HOUSEHOLD RESULTS 90th PERCENTILE	TYPICAL SOURCE OF CONTAMINATION	ACTION LEVEL EXCEEDED?
LEAD	Sep 2009	ppb	15	0.2	30	2.4	INTERNAL CORROSION OF HOUSEHOLD PLUMBING SYSTEMS; EROSION OF NATURAL DEPOSITS; LEACHING FROM WOOD PRESERVATIVES	NO
COPPER	Sep 2009	ppm	1.3	0.3	30	0.36	INTERNAL CORROSION OF HOUSEHOLD PLUMBING SYSTEMS; EROSION OF NATURAL DEPOSITS; LEACHING FROM WOOD PRESERVATIVES	NO

SAMPLING RESULTS FOR SODIUM AND HARDNESS

PARAMETER	DATE TESTED	UNITS	MCL	PHG (MCLG) [MRDLG]	GROUNDWATER RANGE OF DETECTION			TYPICAL SOURCE OF CONTAMINANT	EXCEEDED MCL?
					LOW	HIGH	AVG.		
SODIUM	2010	ppm	NS	N/A	20	33	25	"SODIUM" REFERS TO THE SALT PRESENT IN THE WATER AND IS GENERALLY NATURALLY OCCURRING	NS
HARDNESS	2010	ppm	NS		192	354	292	RUNOFF/LEACHING FROM NATURAL DEPOSITS	NS
HARDNESS	2010	GRAINS/GAL	NS		11	21	17	RUNOFF/LEACHING FROM NATURAL DEPOSITS	NS

PRIMARY DRINKING WATER STANDARDS - MANDATORY HEALTH RELATED STANDARDS

PARAMETER	DATE TESTED	UNITS	DLR	MCL	PHG (MCLG) [MRDLG]	GROUNDWATER RANGE OF DETECTION			TYPICAL SOURCE OF CONTAMINANT	EXCEEDED MCL?
						LOW	HIGH	AVG.		
INORGANIC CHEMICALS										
ASBESTOS SOURCE WELLS	2004	MFL	0.2	7	(7)	ND	0.32	0.02	EROSION OF NATURAL DEPOSITS	NO
ASBESTOS DISTRIBUTION	2004	MFL	0.2	7	(7)	ND	0.32	0.32	INTERNAL CORROSION OF ASBESTOS CEMENT WATER MAINS	NO
BARIUM	2010	mg/L	0.1	1	2	ND	0.13	0.04	DISCHARGES OF OIL DRILLING WASTES AND FROM METAL REFINERIES; EROSION OF NATURAL DEPOSITS	NO
FLUORIDE	2010	mg/L	0.1	2	1	ND	0.19	0.13	EROSION OF NATURAL DEPOSITS; WATER ADDITIVE THAT PROMOTES STRONG TEETH; DISCHARGE FROM FERTILIZER AND ALUMINUM FACTORIES	NO
NITRATE (as NO3)	2011	mg/L	2	45	45	8.8	32	20.2	RUNOFF AND LEACHING FROM FERTILIZER USE; LEACHING FROM SEPTIC TANKS AND SEWAGE; EROSION OF NATURAL DEPOSITS	NO
PERCHLORATE	2011	ppb	4	6	6	ND	ND	ND	PERCHLORATE IS AN INORGANIC CHEMICAL USED IN SOLID ROCKET PROPELLANT, FIREWORKS, EXPLOSIVES, FLARES, MATCHES, AND A VARIETY OF INDUSTRIES. IT USUALLY GETS INTO DRINKING WATER AS A RESULT OF ENVIRONMENTAL CONTAMINATION FROM HISTORIC AEROSPACE OR OTHER INDUSTRIAL OPERATIONS THAT USED OR USE, STORE, OR DISPOSE OF PERCHLORATE AND ITS SALTS	NO

DISINFECTANTS/DISINFECTION BY-PRODUCTS RULE

PARAMETER	DATE TESTED	UNITS	MCL	PHG (MCLG) [MRDLG]	GROUNDWATER RANGE OF DETECTION			TYPICAL SOURCE OF CONTAMINANT	EXCEEDED MCL?
					LOW	HIGH	AVG.		
TOTAL TRIHALOMETHANES	2011	ppb	80	N/A	0	8.31	2.46	BY-PRODUCT OF DRINKING WATER CHLORINATION	NO
HALOACETIC ACIDS (HAA5)	2011	ppb	60	N/A	0	2.2	0.61	BY-PRODUCT OF DRINKING WATER DISINFECTION	NO
CHLORINE RESIDUAL	2011	ppm	4.0	[4.0]	0.15	0.65	0.35	DRINKING WATER DISINFECTANT ADDED FOR TREATMENT	ND
RADIOACTIVE CONTAMINANTS									
GROSS ALPHA ACTIVITY	2005	pCi/l	15	0	ND	0.94	0.29	EROSION OF NATURAL DEPOSITS	NO
RADIUM 228	2005	pCi/l	5	0.19	ND	0.12	0.02	NATURALLY OCCURRING - FORMED BY DECAY OF PRIMORDIAL RADIONUCLIDES IN EARTH'S CRUST	NO

SECONDARY DRINKING WATER STANDARDS - AESTHETICS STANDARDS

PARAMETER	DATE TESTED	UNITS	MCL	PHG (MCLG) [MRDLG]	GROUNDWATER RANGE OF DETECTION			TYPICAL SOURCE OF CONTAMINANT	EXCEEDED MCL?
					LOW	HIGH	AVG.		
CHLORIDE	2010	mg/L	500	N/A	32	74	53.5	RUNOFF/LEACHING FROM NATURAL DEPOSITS; SEAWATER INFLUENCE	NO
SULFATE	2010	mg/L	500	N/A	26	44	33.1	RUNOFF/LEACHING FROM NATURAL DEPOSITS; INDUSTRIAL WASTES	NO
TOTAL DISSOLVED SOLIDS	2010	mg/L	1000	N/A	247	390	330	RUNOFF/LEACHING FROM NATURAL DEPOSITS	NO
IRON	2010	ug/L	300	N/A	ND	290	48	LEACHING FROM NATURAL DEPOSITS; INDUSTRIAL WASTES	NO
SPECIFIC CONDUCTANCE (E.C.)	2010	umhos/cm	1,600	N/A	520	700	568	SUBSTANCES THAT FORM IONS WHEN IN WATER; SEAWATER INFLUENCES	NO
COLOR	2010	unit	15	N/A	ND	ND	ND	NATURALLY OCCURRING ORGANIC MATERIALS	NO
ODOR-THRESHOLD	2010	TON	3	N/A	ND	ND	ND	NATURALLY OCCURRING ORGANIC MATERIALS	NO
LIST OF ADDITIONAL CONSTITUENTS ANALYZED									
pH	2010	unit	NS	6.5-8.5	7.3	7.9	7.6	RUNOFF/LEACHING FROM NATURAL DEPOSITS	NS

Additional information about the content of this report (and additional copies) can be obtained by calling the City Utilities Division at (408) 776-7333.

City of Morgan Hill
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Morgan Hill, CA 95037

POSTAL CUSTOMER
MORGAN HILL, CA

Water Sampling and Testing

The annual water sampling required by DPH consists of Bacteria (530), Nitrate (252), Turbidity (52), Trihalomethanes (32), Haloacetic Acids (32), Perchlorate (108) and Sulfates (36), for a total of 1,042 required samples from 40 separate sample stations and the 17 source wells located throughout the City's water production and distribution system.

Other Information

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (800) 426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly atrisk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800) 426-4791.

Water System Improvements

The City's water system consists of 17 production wells, 125 miles of water main, nine pumping stations, and 12 reservoirs. This complex, interrelated system requires 24-hour monitoring and an extensive program of ongoing maintenance. Additionally, a five-year program of capital improvements must be constantly updated to plan and fund new capacity and the replacement of aging infrastructure. During the past year, the following water system improvements were completed:

- **Rehabilitation**: San Pedro and Dunne 1 Wells
- **Water Main Replacement Project**: W. Main Ave. and Barnett Ave.
- **Installation of 3 New Water Quality Sampling Sites**

Don't Be a Water Waster

- Adjust sprinklers so only your lawn is watered and not the house, sidewalk, or street.
- Run your clothes washer and dishwasher only when full. You can save up to 1,000 gallons a month.
- Monitor your water bill for unusually high use. Your bill and water meter are tools that can help you discover leaks.
- Water your lawn and garden in the morning or evening when temperatures are cooler.
- Use a broom instead of a hose to clean your driveway and sidewalk and save water every time.
- If water runs off your lawn easily, split your watering time into shorter periods for better absorption.
- Shorten your shower by a minute or two and you'll save up to 150 gallons per month.

These great ideas and more can be found at wateruseitwisely.com/100-ways-to-conserve/index.php.